10/567900 Acetic Acid Prod

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(FILE 'HOME' ENTERED AT 14:53:34 ON 28 NOV 2007)

FILE 'HCAPLUS' ENTERED AT 14:53:51 ON 28 NOV 2007

L1	222650	S	ACETIC (A) ACID
L2	232	S	METHANOL (W) CARBON (A) MONOXIDE
L3	28	S	L1 AND L2
L4	54	S	CARBON (A) MONOXIDE (W) PARTIAL (A) PRESSURE
L5	0	S	L3 AND L4
L6	13460	S	METHYL (A) ACETATE
L7	11	S	L3 AND L6
L8	0	S	L7 AND L4
L9	3	S	L4 AND L6

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NEWS 3	JUL 02	SCISEARCH enhanced with complete author names
NEWS 4	JUL 02	CHEMCATS accession numbers revised
NEWS 5	JUL 02	CA/CAplus enhanced with utility model patents from China
NEWS 6	JUL 16	CAplus enhanced with French and German abstracts
NEWS 7	JUL 18	CA/CAplus patent coverage enhanced
NEWS 8	JUL 26	USPATFULL/USPAT2 enhanced with IPC reclassification
NEWS 9	JUL 30	USGENE now available on STN
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NEWS 13	AUG 20	CA/CAplus enhanced with CAS indexing in pre-1907 records
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NEWS 18	SEP 13	FORIS renamed to SOFIS
NEWS 19	SEP 13	INPADOCDB enhanced with monthly SDI frequency
NEWS 20	SEP 17	CA/CAplus enhanced with printed CA page images from 1967-1998
NEWS 21	SEP 17	CAplus coverage extended to include traditional medicine patents
NEWS 22	SEP 24	EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS 23	OCT 02	CA/CAplus enhanced with pre-1907 records from Chemisches Zentralblatt
NEWS 24	OCT 19	BEILSTEIN updated with new compounds
NEWS 25	NOV 15	Derwent Indian patent publication number format enhanced
NEWS 26	NOV 19	WPIX enhanced with XML display format

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=> fil hcapl

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FULL ESTIMATED COST	0.21	0.21

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FILE COVERS 1907 - 28 Nov 2007 VOL 147 ISS 23
FILE LAST UPDATED: 27 Nov 2007 (20071127/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s acetic (a) acid
252691 ACETIC
22 ACETICS
252700 ACETIC
(ACETIC OR ACETICS)
4482316 ACID
1602321 ACIDS
4987570 ACID
(ACID OR ACIDS)
L1 222650 ACETIC (A) ACID

=> s methanol (w) carbon (a) monoxide
219771 METHANOL
723 METHANOLS
220145 METHANOL
(METHANOL OR METHANOLS)

```
       1323858 CARBON
         28188 CARBONS
       1333856 CARBON
                 (CARBON OR CARBONS)
        188476 MONOXIDE
          1035 MONOXIDES
        189022 MONOXIDE
                 (MONOXIDE OR MONOXIDES)
L2         232 METHANOL (W) CARBON (A) MONOXIDE

=> s l1 and l2
L3          28 L1 AND L2

=> s carbon (a) monoxide (w) partial (a) pressure
       1323858 CARBON
         28188 CARBONS
       1333856 CARBON
                 (CARBON OR CARBONS)
        188476 MONOXIDE
          1035 MONOXIDES
        189022 MONOXIDE
                 (MONOXIDE OR MONOXIDES)
        406881 PARTIAL
          1020 PARTIALS
        407489 PARTIAL
                 (PARTIAL OR PARTIALS)
       1285079 PRESSURE
        181770 PRESSURES
       1353535 PRESSURE
                 (PRESSURE OR PRESSURES)
L4          54 CARBON (A) MONOXIDE (W) PARTIAL (A) PRESSURE

=> s l3 and l4
L5           0 L3 AND L4

=> s methyl (a) acetate
       1031686 METHYL
           686 METHYLS
       1032103 METHYL
                 (METHYL OR METHYLS)
        955591 ME
         10939 MES
        962488 ME
                 (ME OR MES)
       1647245 METHYL
                 (METHYL OR ME)
        550148 ACETATE
         29244 ACETATES
        562161 ACETATE
                 (ACETATE OR ACETATES)
L6        13460 METHYL (A) ACETATE

=> d his

     (FILE 'HOME' ENTERED AT 14:53:34 ON 28 NOV 2007)

     FILE 'HCAPLUS' ENTERED AT 14:53:51 ON 28 NOV 2007
L1        222650 S ACETIC (A) ACID
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L2          232 S METHANOL (W) CARBON (A) MONOXIDE
L3           28 S L1 AND L2
L4           54 S CARBON (A) MONOXIDE (W) PARTIAL (A) PRESSURE
L5            0 S L3 AND L4
L6        13460 S METHYL (A) ACETATE

=> s l3 and l6
L7           11 L3 AND L6

=> s l7 and l4
L8            0 L7 AND L4

=> s l4 and l6
L9            3 L4 AND L6

=> d 1-3 l9 ibib abs

L9   ANSWER 1 OF 3  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:        2007:832432  HCAPLUS
TITLE:                   Kinetic study of acetic acid synthesis using an
                         iridium-catalyzed homogeneous methanol carbonylation
                         process
AUTHOR(S):               Mohammadrezaee, A.; Golhoscini Bidgoli, R.; Nasr, M.
                         R. J.
CORPORATE SOURCE:        Petrochemical Research & Technology Company (NPC-RT),
                         Tehran, 14358, Iran
SOURCE:                  Tahghigh dar Oloom va Mohandesi-i Naft (2007), 16(54),
                         3Persian-16Persian, 3English
                         CODEN: TOMNAY
PUBLISHER:               Pizhuhishgah-i San'at-i Naft
DOCUMENT TYPE:           Journal
LANGUAGE:                Persian
AB   In this paper, the kinetic of methanol carbonylation by homogeneous
     Iridium catalyst with present of CH3I as promoter in acid media, has been
     studied.  The reaction was carried out in liquid media with constant carbon
     monoxide pressure (22-40 atm) and temps. of 170, 185, 195 °C.  The
     effect of carbon monoxide partial
     pressure and Me iodide promoter, acetate Me,
     water and Iridium catalysts concentration on the reaction rate have been
     investigated.  It was found that the reaction rate is dependent on the
     initial reactant concns. and CO partial pressure.  Based on the Arrhenius
     formula, the activation energy and frequency factor were calculated

L9   ANSWER 2 OF 3  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:        2006:630898  HCAPLUS
DOCUMENT NUMBER:         145:83019
TITLE:                   Catalytic carbonylation process for producing
                         carboxylic acids from alcohols and carbon monoxide
INVENTOR(S):             Kojima, Hidetaka
PATENT ASSIGNEE(S):      Daicel Chemical Industries, Ltd., Japan
SOURCE:                  PCT Int. Appl., 75 pp.
                         CODEN: PIXXD2
DOCUMENT TYPE:           Patent
LANGUAGE:                English
FAMILY ACC. NUM. COUNT:  1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
```

WO 2006068157	A1	20060629	WO 2005-JP23420	20051214
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2006199681	A	20060803	JP 2005-358935	20051213
EP 1828094	A1	20070905	EP 2005-819473	20051214
R: DE, FR, GB				
IN 2007DN04470	A	20070831	IN 2007-DN4470	20070612
PRIORITY APPLN. INFO.:			JP 2004-368249 A	20041220
			WO 2005-JP23420 W	20051214

OTHER SOURCE(S): CASREACT 145:83019

AB A process for producing a carboxylic acid (e.g., acetic acid) comprises the continuous carbonylation of an alc. (e.g., methanol) with carbon monoxide in the presence of a carbonylation catalyst system, and a limited amount of water, continuously withdrawing the reaction mixture from the reaction system, introducing the withdrawn reaction mixture into a distillation step, and separating a higher-boiling component and a lower-boiling component containing a carboxylic acid. In the process, the amount of carbon monoxide and/or hydrogen contained in a liquid phase of the reaction system is adjusted to at least one of the following conditions (i) and (ii): (i) the amount of carbon monoxide relative to 1 kg of the liquid phase by weight is at least 2 mmol per 1 MPa of carbon monoxide partial pressure of the reaction system; and (ii) the amount of hydrogen relative to 1 kg of the liquid phase by weight is at least 50 mmol per 1 MPa of hydrogen partial pressure of the reaction system. Such a process inhibits deactivation of a metal catalyst and deterioration in a reaction rate, and decreases formation of byproducts (e.g., acetaldehyde) in producing a carboxylic acid under a low water content. Process flow diagrams are presented.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 3 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:410679 HCAPLUS
DOCUMENT NUMBER: 129:69101
TITLE: Iridium-catalyzed carbonylation process for the production of acetic acid
INVENTOR(S): Ditzel, Evert Jan; Sunley, John Glenn; Watt, Robert John
PATENT ASSIGNEE(S): BP Chemicals Ltd., UK
SOURCE: Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 849249	A1	19980624	EP 1997-310013	19971211
EP 849249	B1	20020410		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
ZA 9711276	A	19990615	ZA 1997-11276	19971215
NO 9705917	A	19980622	NO 1997-5917	19971216
US 5877347	A	19990302	US 1997-992103	19971217
CA 2225230	A1	19980619	CA 1997-2225230	19971218
CA 2225230	C	20070605		
IN 1997DE03682	A	20060127	IN 1997-DE3682	19971218
CN 1191214	A	19980826	CN 1997-120806	19971219
CN 1093116	B	20021023		
JP 10310548	A	19981124	JP 1997-350986	19971219
BR 9706783	A	19990518	BR 1997-6783	19971219
RU 2245870	C2	20050210	RU 1997-121233	19971219
TW 440561	B	20010616	TW 1997-86119864	19971227
PRIORITY APPLN. INFO.:			GB 1996-26317 A	19961219

AB A process for the production of acetic acid comprises: (1) continuously feeding methanol and/or a reactive derivative and carbon monoxide to a carbonylation reactor containing a liquid reaction composition comprising an iridium carbonylation catalyst, a Me iodide cocatalyst, a finite concentration of water, acetic acid, Me acetate and, optionally, at least one promoter (e.g., Ru, Os, Re, W); (2) carbonylating the methanol and/or reactive derivative with the carbon monoxide in the liquid reaction composition to produce acetic acid; and (3) recovering the acetic acid from the liquid reaction composition During the reaction there is continuously maintained: (a) in the liquid reaction composition water at a concentration of ≤4.5%; and (b) in the reactor a carbon monoxide partial pressure of 0-7.5 bars.

REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d 1-11 l7 ibib abs

L7 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:841396 HCAPLUS
DOCUMENT NUMBER: 147:213989
TITLE: Production of acetic acid by carbonylation of methanol with carbon monooxide
INVENTOR(S): Miller, Andrew John; Payne, Marc John
PATENT ASSIGNEE(S): BP Chemicals Limited, UK
SOURCE: PCT Int. Appl., 13pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007085790	A1	20070802	WO 2007-GB54	20070110

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: GB 2006-1865 A 20060130
OTHER SOURCE(S): CASREACT 147:213989

AB Acetic acid is prepared by carbonylating methanol and/or a reactive derivative thereof with carbon monoxide in ≥1 carbonylation reaction zone containing a liquid reaction composition comprising an iridium carbonylation catalyst, Me iodide co-catalyst, a finite concentration of water, acetic acid, Me acetate and promoters, indium and rhenium.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1242785 HCAPLUS
DOCUMENT NUMBER: 146:64490
TITLE: Method and apparatus for carbonylation of methanol to acetic acid at low pressure
INVENTOR(S): Chen, Dasheng; Cao, Zhilong; Liu, Yan; Wu, Wenjing
PATENT ASSIGNEE(S): Shanghai Wujing Chemical Industry Co., Ltd., Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 21pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1865213	A	20061122	CN 2006-10027775	20060619

PRIORITY APPLN. INFO.: CN 2006-10027775 20060619

AB The apparatus comprises light phase removing tower, dehydrating tower connected with secondary decanting glass, weight phase removing tower, waste acid tower. The production method comprises treating methanol and carbon monoxide in the presence of catalyst; flash vaporizing catalytic reaction solution for gas phase crude acetic acid; distilling for wet acetic acid, leading gas phase into decanting glass, adding water for low d. phase containing water and acetic acid and high d. phase containing iodomethane and Me acetate; dewatering and removing impurity. The catalyst has higher activity and selectivity.

L7 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:656217 HCAPLUS
DOCUMENT NUMBER: 145:105586
TITLE: Efficient method for producing acetic acid with reduced byproducts

INVENTOR(S): Kojima, Hidetaka; Miura, Hiroyuki
PATENT ASSIGNEE(S): Daicel Chemical Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006070632	A1	20060706	WO 2005-JP23268	20051219
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
JP 2006182691	A	20060713	JP 2004-377223	20041227
EP 1832569	A1	20070912	EP 2005-816451	20051219
R: DE, FR, GB				
US 2007093676	A1	20070426	US 2006-567900	20060210
IN 2007DN03991	A	20070831	IN 2007-DN3991	20070528

PRIORITY APPLN. INFO.: JP 2004-377223 A 20041227
WO 2005-JP23268 W 20051219
OTHER SOURCE(S): CASREACT 145:105586

AB The method comprises continuously reacting methanol and CO in the presence of a rhodium catalyst, an iodide salt, MeI, AcOMe, and water, to produce acetic acid at a formation rate of ≥11 mol/L·h, while suppressing an acetaldehyde concentration in a liquid reaction mixture to ≤500 ppm, wherein the reaction is carried out under the condition wherein the partial pressure of CO in the gas phase of the reactor is ≥1.05 MPa or the concentration of AcOMe in the liquid reaction mixture is ≥2%, to thereby suppress the rate of formation of acetaldehyde to ≤1/1500 of that of acetic acid.

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:1089494 HCAPLUS
DOCUMENT NUMBER: 143:349040
TITLE: Improved method and equipment for preparing acetic acid by carbonylation
INVENTOR(S): Chen, Dasheng; Liu, Yan; Cao, Zhilong; Wu, Wenjing; Yao, Changgen
PATENT ASSIGNEE(S): Shanghai Wujing Chemical Co., Ltd., Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 37 pp.
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1562937	A	20050112	CN 2003-10108290	20031030

PRIORITY APPLN. INFO.: CN 2003-10108290 20031030

AB This invention relates to an improved method and equipment for preparing acetic acid by carbonylation of methanol with carbon monoxide. In the preparation reaction, a reactor with external cooler is adopted. The pressure and temperature in the reactor are controlled within 20-40 bars and 170-220°C resp., and the volume ratio of reacting liquid from flash evaporator to the feeding methanol is controlled within 7-20. A forced cooler is fitted between the reactor and the flash evaporator and is connected to the reactor with a reacting-liquid recycling pump; the flash-evaporator and the reactor are connected through a flash liquid returning pump. The flash evaporation in this method has only one function of removing the product instead of the two functions of removing both the heat and the product in conventional method, which can avoid bottleneck in rectification section, maintain good catalytic effect and stability of rhodium catalyst and co-catalyst, and maximize the productivity of the reactor.

L7 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:513795 HCAPLUS
DOCUMENT NUMBER: 143:195560
TITLE: Rhodium/inorganic iodine compound catalyst system for reducing impurity in acetic acid production
INVENTOR(S): Liu, Yan; Chen, Dusheng; Cao, Zhilong
PATENT ASSIGNEE(S): Shanghai Wujing Chemical Industrial Co., Ltd., Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, No pp. given
CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1537840	A	20041020	CN 2003-116492	20030418

PRIORITY APPLN. INFO.: CN 2003-116492 20030418
OTHER SOURCE(S): CASREACT 143:195560

AB High-purity acetic acid was manufactured by MeOH/CO reaction with rhodium/inorg. iodide catalysts in liquid medium.

L7 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:532391 HCAPLUS
DOCUMENT NUMBER: 139:102727
TITLE: Process for producing carboxylic acids using stabilizing co-catalyst
INVENTOR(S): Tsai, Chia Jung; Liu, Yao Lung; Tsai, Hsi Chin
PATENT ASSIGNEE(S): China Petrochemical Development Corporation, Taiwan
SOURCE: U.S. Pat. Appl. Publ., 8 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003130540	A1	20030710	US 2002-263643	20021004
US 6784313	B2	20040831		
TW 567183	B	20031221	TW 2001-90124658	20011005

PRIORITY APPLN. INFO.: TW 2001-90124658 A 20011005
OTHER SOURCE(S): CASREACT 139:102727; MARPAT 139:102727

AB The title process comprises carbonylating an alc. having n C atoms, an ester of the alc., and the carboxylic acid or a dialkyl ether having n C atoms in each alkyl group with CO in the presence of a catalytic system containing a Rh catalyst so as to produce the carboxylic acid having (n+1) C atoms, characterized by using a reaction medium of (1) a Rh catalyst, (2) an organic halide corresponding to the alc., (3) an ester of the alc. and the carboxylic acid, (4) the carboxylic acid, optionally (5) H2O, a haloid acid, an inorg. halogen salt or an acetate, and (6) a co-catalyst selected from ≥1 N- and O-containing organic compds. NR1-3, where R1-3 = R4, UCWCO2Z, YO2CVCWCO2Z, H2NOCVCWCO2Z, H2NVCWCO2Z, YOCVCWCO2Z, XO2CVCW(CO2Y)CO2Z; and R4, U = H, aliphatic groups having 1-6 C atoms, or arylaliph. or aromatic groups having 6-10 C atoms; V, W = direct bond, aliphatic groups having 1-6 C atoms or aliphatic groups or aromatic groups having 6-10 atoms; and X, Y and Z = H, metal ion or aliphatic groups having 1-6 C atoms, providing that ≥1 R1, R2 and R3 is a group other than R4. In the Rh catalyst-mediated carbonylation of MeOH and CO, addition of trisodium tri(carboxymethyl)amine co-catalyst stabilized the catalyst as indicated by Rh concentration 388 ppm after 1 h reaction time; vs. Rh concentration 74 ppm in 1 h without addition of co-catalyst.

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:195441 HCAPLUS
DOCUMENT NUMBER: 138:403304
TITLE: Synthesis of acetic acid via methanol carbonylation catalyzed by nickel supported on phenolic-resin derived active carbon
AUTHOR(S): Wang, Yun-hai; Zhao, Jing-lian; Wang, Xin-ping
CORPORATE SOURCE: Department of Environmental Engineering, Xi'an Jiaotong University, Xi'an, 710049, Peop. Rep. China
SOURCE: Gaoxiao Huaxue Gongcheng Xuebao (2003), 17(1), 106-109
CODEN: GHGXEG; ISSN: 1003-9015
PUBLISHER: Zhejiang Daxue
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
OTHER SOURCE(S): CASREACT 138:403304

AB The acetic acid was synthesized from methanol and carbon monoxide via carbonylation in fixed bed reaction. The self-made nickels supported on phenolic-resin derived active carbon and Me iodine were used as catalyst and catalyst promoter resp. The influences of reaction temperature, amts. of water added, space-time and amts. of carbon monoxide on the yield of carbonylation products were investigated. It was found that the reaction conditions have great effects on carbonylation. The best conditions found are following, system pressure 1.0 MPa, temperature 558 K, space-time of liquid 10 gcat·(mol·h-1)-1, the volume ratio of water to methanol 3:100, the molar ratio of monoxide, methanol to

Me iodine 80:40:1. Under these conditions, the yield of acetic acid is the highest and can reach 67.1%, and the conversion of methanol and the yield of total carbonylized products can reach 93.8% and 79.1% resp., which are obviously higher than the yield of product of other congener catalysts having been reported.

L7 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1997:574542 HCAPLUS
DOCUMENT NUMBER: 127:205287
TITLE: Integrated oxidation and carbonylation process for the production of acetic acid and/or methyl acetate from methane
INVENTOR(S): McFarlan, Andrew J.
PATENT ASSIGNEE(S): Natural Resources Canada, Can.
SOURCE: U.S., 5 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5659077	A	19970819	US 1996-620659	19960322
CA 2249310	A1	19971002	CA 1997-2249310	19970319
CA 2249310	C	20020205		
WO 9735827	A1	19971002	WO 1997-CA190	19970319
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9719194	A	19971017	AU 1997-19194	19970319
AU 718077	B2	20000406		
EP 888277	A1	19990107	EP 1997-906962	19970319
EP 888277	B1	20010627		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: US 1996-620659 A 19960322
WO 1997-CA190 W 19970319

AB The title process comprises subjecting a feed mixture consisting of (a) methane gas and (b) gaseous oxygen, air, or mixts. to partial oxidation without production of synthesis gas in a reaction zone at elevated temperature and pressure to form a reaction mixture containing methanol, carbon monoxide, carbon dioxide, methane, and water vapor. A portion of the water vapor is removed and the remaining mixture is fed, together with addnl. methanol from an external source, through a carbonylation reaction zone at elevated temperature and pressure to form a reaction product containing acetic acid and/or Me acetate and methanol. The addnl. methanol is added in an amount such that the addnl. methanol together with the methanol produced by partial oxidation is sufficient to convert substantially all of the carbon monoxide produced by the partial oxidation to acid or ester product. Excess methane and carbon dioxide are recycled from the carbonylation reaction

zone back to the partial oxidation reaction zone, methanol in the carbonylation reaction product is recycled back to the carbonylation reaction zone, and acetic acid and/or Me acetate are/is recovered. Process flow diagrams are presented.

L7 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1992:154207 HCAPLUS
DOCUMENT NUMBER: 116:154207
TITLE: Process for preparation of acetic acid and/or methyl acetate
INVENTOR(S): Maneck, Heinz Eberhard; Bischoff, Stefan; Preiss, Henry; Miessner, Hans
PATENT ASSIGNEE(S): Akademie der Wissenschaften der DDR, Germany
SOURCE: Ger. (East), 4 pp.
CODEN: GEXXA8
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DD 296275	A5	19911128	DD 1990-342250	19900628

PRIORITY APPLN. INFO.: DD 1990-342250 19900628

AB Acetic acid and/or AcOMe is prepared from reaction of CO and MeOH in the gas phase in the presence of a halogen-containing promoter and a catalyst comprising a carbonylation-active metal on a solid C support which contains ≤0.25 mequiv/g NaOH-titratable surface groups.

L7 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:137511 HCAPLUS
DOCUMENT NUMBER: 110:137511
TITLE: Manufacture of acetic acid and methyl acetate from methanol and carbon monoxide
INVENTOR(S): Tominaga, Hiroo; Fujimoto, Kaoru
PATENT ASSIGNEE(S): Toyo Engineering Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63233936	A	19880929	JP 1987-68069	19870324
JP 2528866	B2	19960828		

PRIORITY APPLN. INFO.: JP 1987-68069 19870324

AB The title compds. are prepared in high yields at low utility cost by gas-phase reaction of CO and MeOH at 423-623 K and 0.1-30 MPa in the presence of a carbonaceous carrier-supported Ni catalyst, an auxiliary catalyst, and a small amount of H. Thus, mixing 100 g 20-40 mesh activated carbon and 2.6 g (as Ni) aqueous Ni nitrate, evaporating to remove H2O, drying, heating under N at 673 k0 for 2 h, and treating with a Co atmospheric containing 1 volume% MeI at 523 K for 2 h gave a catalyst with Ni/I 1.2, 0.5 g of which in a reactor was used to convert 500:95:5 Co/MeOH/MeI with H/CO mol ratio

0.2 at 523 K at 1.1 MPa, producing a composition containing 82 mol% AcOH and 7.0
mol% MeOAc at 100% MeOH conversion.

L7 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1987:140978 HCAPLUS
Correction of: 1986:611536
DOCUMENT NUMBER: 106:140978
Correction of: 105:211536
TITLE: Carboxylic acids and esters
INVENTOR(S): Feitler, David
PATENT ASSIGNEE(S): Air Products and Chemicals, Inc., USA
SOURCE: U.S., 9 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4612387	A	19860916	US 1982-336820	19820104

PRIORITY APPLN. INFO.: US 1982-336820 19820104
OTHER SOURCE(S): MARPAT 106:140978

AB Monocarboxylic acids and esters and C4-10 (gasoline-range) hydrocarbons are produced by conversion of C1-4-alcs. with CO in the presence of Rh-free zeolite (SiO2-Al2O3 ratio ≥6:1, constraint index 1-12) at ≥1 atm in the absence of a halide promoter. The process is especially suitable for production of HOAc and MeOAc from MeOH; in addition, C2H4 can be coproduced to prepare a suitable feedstock for vinyl acetate manufacture Preferred conversion conditions are 200-600° and 100-50,000 (especially 500-3000 psig). Thus, 66:1 (mol ratio) CO-MeOH was passed over a ZSM-5 catalyst (SiO2-Al2O3 ratio 26:1, containing 0.26 weight% Cu) at 362°, 0.16 h-1 weight space velocity, and u000 psig, resulting in a formation rate of 279 + 10-6 mol acetate (HOAc + MeOAc) per g catalyst per h. C2H4 was produced at a 13:17 mol ratio to total acetate.

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COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	57.82	58.03

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-10.92	-10.92

FILE 'STNGUIDE' ENTERED AT 14:58:06 ON 28 NOV 2007

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Nov 23, 2007 (20071123/UP).

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(FILE 'HOME' ENTERED AT 14:53:34 ON 28 NOV 2007)

FILE 'HCAPLUS' ENTERED AT 14:53:51 ON 28 NOV 2007

L1	222650	S ACETIC (A) ACID
L2	232	S METHANOL (W) CARBON (A) MONOXIDE
L3	28	S L1 AND L2
L4	54	S CARBON (A) MONOXIDE (W) PARTIAL (A) PRESSURE
L5	0	S L3 AND L4
L6	13460	S METHYL (A) ACETATE
L7	11	S L3 AND L6
L8	0	S L7 AND L4
L9	3	S L4 AND L6

FILE 'STNGUIDE' ENTERED AT 14:58:06 ON 28 NOV 2007